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Attorney Docket No. 9319S-000625

PIEZOELECTRIC VIBRATION PIECE, PIEZOELECTRIC DEVICE USING  
PIEZOELECTRIC VIBRATION PIECE, PORTABLE PHONE UNIT USING  
PIEZOELECTRIC DEVICE, AND ELECTRONIC EQUIPMENT USING  
PIEZOELECTRIC DEVICE

FIELD OF THE INVENTION

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[0001] The present invention relates to a piezoelectric vibration piece, a piezoelectric device accommodating the piezoelectric vibration piece in its package, and a portable phone and electronic equipment using the piezoelectric device.

[0002] In small-sized information equipment such as HDDs (Hard Disk Drives), mobile computers, or IC cards, and mobile communications devices such as portable phones, car phones, or paging systems, piezoelectric devices such as piezoelectric vibrators and piezoelectric oscillators each accommodating a piezoelectric vibration piece in their packages are widely used.

[0003] FIG. 11 is a schematic cross-sectional view showing an exemplary structure of such a piezoelectric device.

[0004] In FIG. 11, a piezoelectric device 1 is accommodating a piezoelectric vibration piece 3 in its package 2. The package 2 is formed in a shape of shallow box made by an insulation material, and the internally-accommodated piezoelectric vibration piece 3 is securely fixed therein before the package is sealed by a lid body 4.

[0005] The package 2 is formed by mold-laminating a plurality of substrates 2a, 2b, and 2c, each being a ceramic green sheet, before subjecting the package 2 to